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18 January 1977

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BIOMEDICAL AND BEHAVIORAL SCIENCES
No. 62

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USSR AND EASTERN EUROPE SCIENTIFIC ABSTRACTS
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USSR AND EASTERN EUROPE SCIENTIFIC ABSTRACTS

BIOMEDICAL AND BEHAVIORAL SCIENCES

No. 62

This serial publication contains abstracts of articles from USSR and Eastern Europe scientific and technical journals on the specific subjects reflected in the table of contents.

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I. BIOMEDICAL SCIENCES
Agrotechnology

USSR

UDC 581.167:633.15

OBERSHT, V. M.

SETTING OF GRAIN IN TETRAPLOID CORN

Kishinev IZVESTIYA AKADEMII NAUK MOLDAVSKOY SSR. SER. BIOL. I KHIM. NAUK in Russian No 4, 1976 pp 26-30

[Abstract] The setting of grain was studied in tetraploid corn in the second, third, fourth, and fifth years of self-pollination. Tetraploid forms obtained by treating simple diploid hybrids with 0.2% colchicine served as starting material. Excellent results were achieved by self-pollination (I_2 - I_5) and selection of cobs by such characters as thin and long stems, dense rows of grain, deep and oblate grains, etc. For example, in one strain (Slovatskaya zheltaya X 0156), the grain content in the ears as a result of self-pollination and selection was 100% as early as I_4 and it continued in I_5 . A number of other forms also retained 100% grain content in the ears in I_5 . Colchicization sharply increased the rate of setting of grain the first two years (about 80 to 85%). However, further increases in grain content came much more slowly. Figures 4; Table 1; References 8: 7 Russian, 1 Western.

1/1

USSR

UDC 639.2.081.9.001

PROTASOV, V. R., doctor of biological sciences, IEMEZh (expansion unknown)
Academy of Sciences USSR, and REZVOV, R. N., Institute of Oceanography,
Academy of Sciences USSR

SOME QUESTIONS CONCERNING THE IMITATION OF THE SOUND AND ELECTRIC SIGNALS
OF CARNIVOROUS FISH

Moscow RYBNOYE KHOZYAYSTVO (Fish Economy) in Russian No 4, Apr 76 pp 30-31

[Abstract] Intensive bioacoustical studies have been initiated in recent years, directed towards control, by sound, of the behavior of fish. Several findings of a number of Russian investigators are listed, noting the behavior of fish reacting to specific alarm sounds. The Laboratory of Sea Bioacoustics at the Institute of Oceanography constructed an imitator capable of reproducing the complex system of the locational sounds of dolphins. This instrument is programmed to produce a variety of single or repetitive sounds with variable type, initial frequency, amplification curve or sequence of sounds. The range of this instrument is from 80 to 2400 Pa. The instrument can be converted to an electric impulse generator. Figures 2, no tables or references.

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BULGARIA/GDR

DANEV, S., Medical Academy of Sofia, Department of Clinical Laboratory Diagnostic, Bulgaria

TRENDS IN THE PROGRESS OF MODERN ENZYME DIAGNOSTICS

Berlin ZEITSCHRIFT FUR MEDIZINISCHE LABORTECHNIK in German Vol 17, No 5, 1976 pp 227-236 manuscript received 13 Aug 75

[Text] [Germany summary provided by the source] The present survey deals with the two most important trends in modern enzyme diagnosis: 1. The trend toward the introduction of methods for the detection of disease-specific enzymes and toward further developments in the diagnosis of hereditary enzyme defects; 2. the trend toward further improvement and standardization of methods for indirect catalytic enzyme determination and toward the development of procedures for direct quantitative determination of the various enzymes (enzyme proteins). Figures 5; Tables 3; References 15: 2 East German, 2 Bulgarian, 1 Russian, 10 Western.

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Bionics

USSR

CHERNYSHEV, O. B., KOVAL', A. P., and ZAYETS, V. A., of the Institute of Zoology, Academy of Sciences UkrSSR

ANALOGY IN THE DEVELOPMENT OF SOME ADAPTATIONS FOR RAPID SWIMMING IN SHARKS AND BONY FISHES

Moscow BIONIKI in Russian No 9, 1976 signed to press 30 Nov 73 pp 103-106

[Abstract] In searching for mechanisms reducing hydraulic resistance during the motion of fishes it is necessary above all to reveal characteristics encountered in taxonomically separate groups which are fast swimmers. The fastest swimmers among cartilaginous are the mako and the mackerel shark, and among bony the tuna. In spite of profound anatomical differences those groups of fishes have identical characteristics which are obviously explained by adaptation to rapid swimming, including a streamlined body, optimal hydrodynamically, a lunate caudal fin, etc. Without these adaptations of structure rapid swimming is impossible. However, also fast swimming fishes also have additional specific adaptations which contribute to a still greater reduction of hydrodynamic resistance (a mucous biopolymeric coating produced by secretory glands in the epidermis). In fast swimming fishes those cells
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USSR

CHERNYSHEV, O. B., KOVAL', A. P., and ZAYETS, V. A., BIONIKI No 9, 1976 pp 103-106

are concentrated more in the tail region and, in contrast with fishes swimming with less speed, the secretory apparatus consists of only one type of cell, arranged in several rows forming a continuous mucous field. It can be concluded that a definite velocity regime requires a definite complex of adaptations, without which, for an animal with limited energy resources, it is impossible to achieve high speed. The analogy in the arrangement of mucous cells in the shark and tuna confirms the advisability and universality of that structure. Figures 3; References: 6 Russian.

USSR

KOVAL', A. P., and KALYUZHNYAYA, T. A., Institute of Zoology, Academy of Sciences UkrSSR

DISTINCTIVE FEATURES OF THE DELIVERY OF MUCUS TO THE SURFACE OF THE BODY OF FISHES

Moscow BIONIKI in Russian No 9, 1976 signed to press 20 Dec 72 pp 86-89

[Abstract] Distinctive features in the delivery of mucus to the surface of the body of fishes are analyzed as a function of their swimming speed. Mucus-forming cells of various types are arranged in the epidermis at different levels and mucus reaches the surface of the body by various methods. One such method is through cup-shaped cells, the apical part of which is extended and forms a mouth which opens on the surface of the skin. Granular cells, however, from the start of the process of secretion and formation of mucus, move from the middle layers to the surface of the epithelium, where they are ruptured and their contents are spread over the surface of the fish. Analysis of the number of types of mucus-forming cells of fishes swimming at different speeds showed that three types of mucous cells are encountered in slowly swimming fishes, one or two types in moderately swimming fishes, and one type, the granular, in rapidly swimming fishes. In the latter fishes the

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USSR

KOVAL', A. P., and KALYUZHNYAYA, T. A., BIONIKI No 9, 1976 pp 86-89

mucus arrives at the surface of their skin in only one way -- the mucous cell is ruptured on the surface of the body and all its secretion is simultaneously released on the body of the fish. Of special interest is the excretion of mucus on the bodies of the swordfish and sailfish, which have developed in evolution very optimal mechanisms of delivering mucus to the surface of their bodies. Figures 3; References 6: 5 Russian, 1 Western.

USSR

CHERNYSHEV, O. B., and KALYUZHNYAYA, T. A., Institute of Zoology, Academy of Sciences UkrSSR

A POSSIBLE MECHANISM OF ACTION OF THE MUCOUS COATING OF FISHES

Moscow BIONIKI in Russian No 9, 1976 signed to press 4 Feb 74 pp 81-86

[Abstract] Experiments indicate that the mucous coatings of fishes have a well-expressed hydrodynamic effect, consisting in a substantial decrease of resistance during motion. It is found that the mechanism of action of the mucous coating of fast-swimming fishes is the same as that of other fishes, the only difference being that the elasto-damping properties of the mucous coating thanks to the presence of glycogen becomes more distinctly expressed. Only sections of the body covered with mucus, its chemical composition and its quantity on the surface of the body change. However, in its basis, the mechanism remains constant and consists in a combination of the elasto-damping properties of the mucous matter with the formation in the boundary colloid-water layer of extended linear supermolecular complexes directed on the approach stream. Figures 2; References 12: 10 Russian, 2 Western.

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USSR

AMFILOKHIYEV, V. B., and MAZAYEVA, N. P., Leningrad Shipbuilding Institute

LAMINAR FLOW OF POLYMER SOLUTIONS IN A SPIRAL TUBE

Moscow BIONIKI in Russian No 9, 1976 signed to press 21 Nov 73 pp 78-81

[Abstract] In nature, polymeric admixtures of both animal and plant origin, as well as synthetic substances, contribute to a reduction of resistance to the motion of bodies in liquids. During the flow of weak aqueous solutions of such polymers effects arise, to explain which it is necessary to take additional properties of the liquid into consideration. Experimental results indicate that the reduction of the friction coefficient in a spiral tube occurs on account of dissolution of polymers. In a straight tube during laminar flow that did not occur in a wide range of change of concentrations. Figures 2; References 10: 8 Russian, 2 Western.

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USSR

POVKH, I. L., and STUPIN, A. B., Donetsk University

DOUBLE-LAYERED MODEL OF BOUNDARY TURBULENCE IN WEAK POLYMER SOLUTIONS

Moscow BIONIKI in Russian No 9, 1976 signed to press 21 Dec 73 pp 69-74

[Abstract] Synthetic polymers, the mucus of some fishes and polysaccharides produced by marine algae and microorganisms have the property of reducing hydrodynamic resistance. Abundant experimental material is now available for the investigation of that interesting effect, but the practical use of high-molecular additives is considerably hindered by the weak state of study of the effect and the resulting absence of physically substantiated methods of calculating the main characteristics of flows with additives. The authors previously proposed a mechanism of reduction of hydrodynamic resistance based on the resonance absorption of turbulent energy by macromolecules of polymers. However, to obtain simple correlations for practical engineering calculations it has proven advisable to introduce a double-layered scheme of flow in order to determine the amount of reduction of resistance. Then a simple expression can be obtained for the coefficient of anisotropy of dynamic viscosity. Experiments conducted with weak solutions of polymers showed that the effect

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POVKH, I. L., and STUPIN, A. B., BIONIKI No 9, 1976 pp 69-74

of reduction of resistance is manifested at a certain value of the "threshold" velocity, which is determined by the polymer concentration and depends little on the pipe diameter. The value of the "threshold" velocity can be determined experimentally for each specific type of polymer. Figure 1; References: 6 Russian.

USSR

BELINSKIY, V. G., ZINCHUK, P. I., NEZNAMOV, V. N., ORISHICHEV, V. A., and PUTILIN, S. I., of the Institute of Hydromechanics, Academy of Sciences UkrSSR

FLIGHT OF BIRDS NEAR A SCREENING SURFACE

Moscow BIONIKA in Russian No 9, 1976 signed to press 4 Feb 74 pp 21-26

[Abstract] Quantitative data relating to the possible flight of birds near a screen are analyzed in two cases of soaring flight, above undisturbed and agitated surfaces of water. It is known that the amount of lift of a wing moving at a certain height above a flat screen depends on that height. It was found that rectilinear motion of the wing at a given height above an agitated surface is energetically more advisable than motion of the same wing at the same height but above an undisturbed flat surface. In actual flight, however, birds can change the geometry of their wings and thus eliminate excessive lift by corresponding reduction of the angle of attack, which leads to further reduction of resistance and increase of flight speed, and thus develop greater speed with smaller expenditures of energy. Figures 3; References: 6 Russian.

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USSR

BELIAKOV, R. V., Kiev Institute of Civil Aviation Engineers

LINEAR THEORY OF DEFORMATION OF ELASTO-OSMOTIC POLYMERIC STRUCTURES (ARTIFICIAL MUSCLES)

Moscow BIONIKA in Russian No 9, 1976 pp 12-20 signed to press 21 Nov 73

[Abstract] Examples of artificial muscles are polyacrylonitrile and polyvinyl alcohol films, which can be called elasto-osmotic polymeric structures. Like living muscles, they have the advantage of being able to work at pressures and temperatures of all parts close to those of the environment and they create no harmful wastes. An attempt is made in the article to designate an approach to a dynamic theory of the deformation of contractile polymeric structures. After a detailed examination of the dynamics of osmosis, a method of simplified consideration of the polarity of particles is presented and the deformation of elasto-osmotic polymeric films under no-load conditions is analyzed. Figures 2; References 19: 14 Russian, 5 Western.

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USSR

USKOVA, YE. T., RAYEVSKIY, V. S., MOMOT, L. N., and USKOV, I. A., Kiev University and the Institute of Zoology, Academy of Sciences UkrSSR

COMPARATIVE STUDY OF THE HYDRODYNAMIC EFFECTIVENESS OF SOLUTIONS OF POLYOXYETHYLENE AND SKIN EXCRETIONS OF MARINE ANIMALS

Moscow BIONIKI in Russian No 9, 1976 signed to press 10 Jan 73 pp 90-92

[Abstract] The hydrodynamic effectiveness of mucous excretions of marine animals, characterized by different speeds of movement, and WSR-301 polyoxyethylene in sea water and distilled water respectively were compared. A correlation was established between the capability of skin excretions to reduce the resistance of friction of the liquid in turbulent flow and the velocity characteristics of a number of marine animals. The high effectiveness of the mucous coating of the scad and the excretions of the circumocular glands of the dolphin show the great prospects of purposeful searches for synthetic analogs of the active components of such superficial excretions. Figures 5; References 6: 4 Russian, 2 Western.

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USSR

UDC 616.8:615.849.19

DUBENKO, YE. G., professor, ZHUK, docent, SAFRONOV, B. G., candidate of mathematical sciences, and BONDARENKO, M. I., Department of Nervous Diseases, Kharkov Medical Institute and Kharkov Physiol-Technical Institute, Academy of Sciences Ukr SSR

EXPERIENCE IN THE USE OF A LOW INTENSITY LASER IN THE NERVOUS DISEASES CLINIC

Kiev VRACHEBNOYE DELO in Russian No 10 Oct 76 pp 114-119

[Abstract] This report cites results of three years (1973-1976) study of the effectiveness of laser radiation in combined treatment of a number of neurological diseases. The work was performed in the clinic of nervous diseases of Khar'kov medical institute, employed a Soviet helium-neon laser apparatus LG-75, 10 mcw power, which corresponded to a power flux density of about 0.2 w /cm. The course of therapy was 10-12 seances. The laser was directed to six-eight paravertebral points of the cervical spine. Length of exposure at one point daily was increased by 1-1.5 min (initial exposure 1 min, maximal 3.5-4 min) taking into account that, in the course 1/2

USSR

DUBENKO, YE. G., ZHUK, SAFRONOV, B. G., and BONDARENKO, M. I., VRACHEBNOYE DELO No 10 Oct 76 pp 114-119

of treatment, the summary energy of the irradiation received by the patient did not exceed 200 j. Work on 106 patients indicated that the lasers were efficient in treatment of trigeminal neuralgia, posterior cervical sympathetic syndromes, and paroxysmal states. Figures 2; References 8 (Russian).

USSR

UDC 617-089.584

KUZIN, M. I., SACHKOV, V. I., SIGAYEV, V. V., ABRAMOV, YU. B., GRACHEV, A. D., VAKHRAMEYEV, L. A., SVETLOV, V. A., KUTYROV, O. D., and YELISEYEVA, S. I.,
Moscow

THEORY AND PRACTISE OF ELECTROANESTHESIA, RESULTS OF 15 YEARS OF CLINICAL
AND EXPERIMENTAL STUDIES OF ELECTROANESTHESIA

Moscow VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR in Russian No 11 1976
pp 12-18

[Abstract] The authors list as the advantages of electroanesthesia (EA), its simplicity in use, absence of toxicity, cumulative action or post-narcosis depression, easy controllability, potential for use in mass injuries, economy and freedom from explosion, and suggest that it approaches the ideal anesthetic of which anesthesiologists dream. In the early years of research (1960-1966) an interference current was found to be the most successful form of application for which an NEIP-1 electronarcosis apparatus (priority of which belonged to the USA, BRD, Japan, France, and England) was employed. M. I. Kuzin, et al., first used it for EA, under clinical conditions in 1963, combined with premedication. The second stage (1967-1972) of
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USSR

KUZIN, M. I., SACHKOV, V. I., SIGAYEV, V. V., ABRAMOV, YU. B., GRACHEV, A. D., VAKHRAMEYEV, L. A., SVETLOV, V. A., KUTYROV, O. D., and YELISEYEVA, S. I., VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR No 11 1976 pp 12-18

EA research involved study of the central mechanisms of action of the electric current. The spasmodic reaction which was found to accompany the anesthesia had to be circumvented. Kuzin, et al., successfully combined EA with anti-spasmodic agents (1972). Midocalm which had a pronounced anti-spasmodic action, raised the threshold of appearance of spasm while assuming adequate anesthesia without spasm or its accompanying vegetative and motor components (1974). The authors, with colleagues at the All-Union Scientific Research Institute of Medical Industry (A. M. Rybakov, 1973), developed protective filters to record EEGs simultaneously with EA. This made it possible to control the level of anesthesia and to expose the features of the CNS reaction to EA; in addition this revealed objective indices for introduction of antispasmodic preparations (A. D. Grachov). Three techniques of application of EA are described which have been tested successfully under clinical conditions. References 15 (Russian).

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USSR

UDC 613.647:612.766.1

DZYUBA, YU. F., Department of Labor Hygiene, Khar'kov Medical Institute

PHYSIOLOGICAL AND HYGIENIC EVALUATION OF LABOR CONDITIONS OF ELECTROCAR WORKERS

Kiev VRACHEBNOYE DELO in Russian No 10 Oct 76 pp 124-127

[Text-English language abstract supplied by author] Electrocar workers are exposed to the effect of total low and average frequency vibration of essential parameters. Additional unfavorable factors of work of these drivers are the major efforts necessary to switch over and control the car, and air pollution with dust and carbon monoxide during work in the shops. Physiological examinations revealed in these workers an increased excitability of the vestibular analyzer, a tendency to dystonic responses of the cardiovascular system, inhibition of neural cortical processes as one of the signs of developing fatigue. Total vibration causes disorders of specific functions of the female body which is confirmed by an increased gynecological morbidity, and changes of topography of the internal sex organs due to vibration. Prophylactic measures and early diagnoses of this kind of occupational pathology are discussed. References 6 (Russian).

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USSR

UDC 612.014.426:612.6:612.014.461.3

GRIN, A. N., Kiev Scientific Research Institute of General and Communal Hygiene imeni A. N. Marzeyev

EFFECT OF SMALL DOSES OF UHF ELECTROMAGNETIC WAVES ON SOME INDICES OF RENAL FUNCTION AND WATER-SALT METABOLISM

Kiev VRACHEBNOYE DELO in Russian No 10 Oct 76 pp 130-132

[Text-English language abstract supplied by author] Experiments were conducted on 231 mature male and female rats and it was found that small doses of UHF electromagnetic waves caused a moderate increase of the diuresis and urinary excretion of chlorides. Prior irradiation of the body with electromagnetic waves of low intensity produced compensation-adaptation changes of the kidneys and subsequent more intensive irradiation caused significantly smaller functional changes of the kidneys and their normalization was earlier. No references.

1/1

USSR

UDC 615.849.19.015.44/:612.8.014.2

LAPRUN, I. B., and ADZHIMOLAYEV, T. A., Central Institute of Resort Science and Physiotherapy, Moscow

EFFECT OF LASER IRRADIATION ON LYSOSOMES IN NERVE CELLS

Moscow VOPROSY KURORTOLOGII, FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 signed to press 26 Dec 74 pp 65-67

[Abstract] Irradiation of an exposed section of rat brain with helium-neon laser at a dose of 3.6 J/cm^2 leads to a small but statistically significant (3%) lowering of the activity of acid phosphatase in the pyramidal cells of the brain cortex. Irradiation of an isolated brain of the Roman snail with the same dose gives a 12% drop in the activity of acid phosphatase in the neurons. Table 1; References 16: 12 Russian, 4 Western.

1/1

USSR

UDC 576.851.214.095.13

GRIGOR'YEVA, V. D., and VINICHENKO, YE. M., Central Institute of Resort Science and Physiotherapy, Moscow

EFFECT OF DECIMETER LONG WAVES ON A STREPTOCOCCAL CULTURE

Moscow VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 signed to press 9 Jan 74 pp 46-48

[Abstract] Electromagnetic vibrations of decimeter long waves (DLW) at medium and high therapeutic doses exhibit bacteriostatic and bactericidal effects leading to destruction of 25-75% of streptococcal cultures. At half the above exposures the DLW lead to changes in culture properties, acting bacteriostatically on the streptococci. Table 1; Figure 1; References 8: 6 Russian, 2 Western.

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USSR

UDC 614.893.36:621.365.5

KULIKOVSKAYA, YE. L., Polytechnical Institute imeni M. I. Kalinin, Leningrad

PROTECTION OF THE WORKERS ON HIGH FREQUENCY INDUCTION HEATING UNITS

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 28 Nov 75
pp 47-48

[Abstract] Evaluation of screens for induction heaters working with 15 kVt vibrational force and 440 kHz frequency was carried out, using 1 mm thick aluminum screen. It has been shown that a single sheet placed along or perpendicular to the axis of the inductor does not furnish adequate protection from the electromagnetic waves. Several other types of screens have been analyzed: G-type semibasket, perpendicular basket, semicylindrical screen with superimposable axes, etc. Metal-reinforced radioprotective glass plates could be used for the observation ports, provided the workers would be at least one meter away from the source of energy. The selection of a screen will depend on the intensity of irradiation in the working area. The multifacet screens should be interconnected and grounded. Proper selection, depending on the working conditions, will provide safety to the workers. Figure 1; no tables or references.

1/1

USSR

UDC 613.6:[681.11.035.2:621.375.826

KASHUBA, V. A., Moscow Scientific Research Institute for Hygiene imeni F. F. Erishman

PROBLEMS OF LABOR HYGIENE WITH THE UTILIZATION OF NEODYMIUM LASERS IN THE PRODUCTION OF WATCHES

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 4 Jan 76
pp 29-32

[Abstract] The author has made a study of the conditions of labor and a hygienic evaluation of laser installations used at three watch factories in order to pierce ruby stones used in the movement. In the laser shops, a combination of occupational and production factors is created -- laser radiation, flashes of light, noise pulses, aerosols, gases resulting from the process of interaction of the laser radiation with the material being worked. Shielding of the working zone is the most important single protective measure. Particular attention should be given to improvement of elimination and creation of high levels of elimination to reduce the unfavorable influence of the laser radiation.

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USSR

UDC 614.8:616.5-002.957.7(470.41)

GLAZKOVA, R. G.

MOSQUITO CONTROL IN THE CITY OF KAZAN

Kazan KAZANSKIY MEDITSINSKIY ZHURNAL in Russian Vol 57, No 4, Jul/Aug 76 p 380

[Abstract] Observation indicates the presence of 23 mosquito species in Kazan, principally genus *Aedes* in the spring and genera *Anopheles* and *Culex* in the summer. Greater disinfectant productivity, mechanized water treatment and extensive filling of reservoirs not needed for agriculture resulted in the complete absence of sporadic cases of malaria in Kazan.

1/1

USSR

UDC 632.654:632.95

IOANNISIANI, T. G., Central Botanical Garden, Academy of Sciences Belorussian SSR

RESISTANCE OF COMMON WEBBED MITES (*TETRANYCHUS URTICAE* KOCH.) TO PHOSPHORO- AND CHLORORGANIC PESTICIDES

Minsk VESTSI AKADEMII NAUK BSSR, SERYYA BIYALAGICHNYKH NAVUK in Russian No 5, 1975 pp 130-132

[Abstract] Experience at the Central Botanical Garden of the Belorussian SSR Academy of Sciences has indicated that phosphoro- and chlororganic pesticides are not always effective in protecting roses against common webbed mites. Controlled laboratory experiments using conditions usually found in the greenhouse demonstrated that greenhouse mites, which had been exposed to pesticides many times, were much less sensitive to four of them than mites from the wild. Three experiments for each pesticide and a water control were conducted in a Petri dish containing wet paper or gauze, a rose leaf of controlled size and 10 male mites, which was manually sprayed with a 0.2% pesticide solution.

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USSR

IOANNISIANI, T. G., VESTSI AKADEMII NAUK BSSR, SERYYA BIYALAGICHNYKH NAVUK
No 5, 1975 pp 130-132

The Action of Pesticides on Common Webbed Mites (*Tetranychus Urticae* Koch.)
from Wild and Greenhouse Populations (Laboratory Experiment, 21 Aug 75)

	% dead specimens on given day					
	wild population			greenhouse population		
	1	4	7	1	4	7
Kel'tan	10.5	52.5	84.0	21.9		21.9
Bi-58 (rogor)	86.4	95.5	95.5	3.6	7.2	7.2
Antio	69.2	96.1	96.1	14.7	29.4	29.4
Karbofos	37.5	100.0	100.0	6.2		6.2

Tables 1; References 15: 15 Russian.

2/2

USSR/HUNGARY

UDC 57.085.23:632.95

DURA DYULA, SLOBODNIK YUDIT, CHUKA IL'DIKO, and DESHI ILLESH, State
Institute for Public Health, Budapest

STUDY OF THE INFLUENCE OF PESTICIDES ON TISSUE CULTURES

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 17 Jul 75
pp 82-86

[Abstract] Experiments were performed using the M-7 (ape kidney) tissue culture line, cultivated in the Department of Virology of the Hungarian State Institute for Public Health. Cultures were incubated at 37°C and exposed to pesticides to determine the influence of the pesticides on the formation of the cell layer and on the cells in the layer formed. Pesticides studied included lindane, malathion, bromophos, trichlorophon, benlat, aprocarb and bioxacarb. The cell culture method can yield additional valuable information and could be a component part of toxicologic investigations. In using the method, it should be kept in mind that morphologic evaluation in and of itself, even when supplemented by biochemical analysis, cannot answer the question of the degree of harmful influence of pesticides on the health of man and on the biosphere.

1/1

USSR

UDC 614.73:546.15.02.129

ZYKOVA, A. S., and GNEUSHEVA, G. I.

THE PROBLEM OF THE RADIATION DANGER OF I^{129}

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 2 Oct 75
pp 76-78

[Abstract] The main source of pollution of the environment with I^{129} is plants processing nuclear fuel. This isotope has the ability to accumulate in the environment and migrates well along the biological chains to the human organism. However, the literature data are not yet sufficient to evaluate the true radiation danger of I^{129} .

1/1

USSR

UDC 547.814-02:616-006

SHABAD, L. M., academician, Division of Carcinogenic Agents Studies, Institute of Experimental and Clinical Oncology, Academy of Medical Sciences USSR, Moscow

CARCINOGENIC ACTIVITY OF POLYCYCLIC HYDROCARBONS ON MAN AND ANIMALS

Kazan' KAZANSKIY MEDITSINSKIY ZHURNAL (Kazan' Medical Journal) in Russian Vol 57, No 2, Mar/Apr 76 signed to press 4 Aug 75 pp 124-129

[Abstract] Basic facts are reported on the carcinogenic activity of polycyclic aromatic hydrocarbons (PAH) towards humans and animals. Benzpyrene (BP) is taken as a standard indicator for PAH. Studies of the distribution of BP in atmosphere, hydrosphere, in soil, in plants and in animals led to an understanding of the accumulation and breakdown of this chemical. On this basis, safety limits were set as a prophylactic measure. No tables or figures. References 26: 16 Russian, 10 Western.

1/1

USSR

UDC 613.1

CHIKIN, S. YA., doctor of medical sciences, Moscow

ROLE OF THE ENVIRONMENT IN PROTECTION OF THE HEALTH OF THE POPULATION

Kazan' KAZANSKIY MEDITSINSKIY ZHURNAL (Kazan' Medical Journal) in Russian
Vol 57, No 2, Mar/Apr 76 signed to press 8 Sep 75 pp 119-124

[Abstract] An editorial type review of environmental pollution problems. The situation in the West is contrasted with the Soviet state, where water purification plants are built at an increased rate, where forests are planted in and around large cities, where the Party takes an active interest in the problem of the effect of environmental contamination on its citizenry. Several recent decisions of the Central Committee of the CP USSR concerning the protection of the environment are cited. No tables or figures, 5 citations from "Pravda."

1/1

USSR/GDR

UDC 576.851.49.077.5.01(430.2)

SHARIPOV, R. Z., ZIESCHE, K., and RISCHE, H., Institute of Experimental Epidemiology, Central Laboratory of Phage Typing, Wernigerode, GDR (East Germany)

THE INCIDENCE OF FREQUENTLY OCCURRING SH. SONNEI PHAGE TYPES IN THE GDR

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 4 Jun 75 pp 72-77

[Text-English language abstract supplied by authors.] On the basis of literature data (from 1955 to 1970) and their own studies (from 1962 to 1974) the authors present information on the phage types of Sh. sonnei most frequently encountered in the GDR. It was possible to trace the detection and the incidence of individual phage types on the territory of the republic (by time). In centralized typing there were obtained rather constant and standard results. Further improvement of phage typing and also its combined use with other methods of typing is necessary in epidemiological practice. Tables 3; References 18: 1 Russian, 17 German.

1/1

USSR

UDC 616.988-25-022.395.42-036.86

SHAPOVAL, A. N., Perm Medical Institute

EXPERTISE ON ABILITY TO WORK OF PATIENTS WHO HAVE HAD TICK ENCEPHALITIS

Moscow KLINICHESKAYA MEDITSINA in Russian Vol 54 No 9 Sep 76 signed to press
3 Jun 75 pp 97-102

[Text-English language abstract supplied by author] Tick-borne encephalitis often produces a profound effect on the health of the patients, leads to the reduction and even loss of capacity for work irrespective of the form of its clinical manifestation. Later, patients demonstrated a development of the clinical form of tick-borne encephalitis and hyperkinetic syndromes that makes it necessary to reconsider their capacity for work. Restoration of capacity for work occurred more completely and at earlier periods in patients with an active mode of life and those who tried to do useful work. References 17 (Russian).

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USSR

UDC 616.127-005.8-036.88:312.2

ARABADZHYAN, V. A., and KOSSOVSKIY, M. YA., Central Clinical Hospital and Polyclinics of the Management of Business, Academy of Sciences USSR, Moscow

ANALYSIS OF HOSPITAL MORTALITY IN MYOCARDIAL INFARCTION

Moscow KLINICHESKAYA MEDITSINA in Russian Vol 54 No 9 Sep 76 signed to press
3 Jun 75 pp 108-111

[Text-English language abstract supplied by authors] The authors analyse 78 cases of myocardial infarction having a lethal outcome. Studies of mortality depending upon the terms of the disease showed that during the first week of the disease there were 58.9% of lethal cases, during the 2nd week--19.2%, during the 3rd week and more--21.9%. As a result of the analysis of the causes of the lethal outcome in myocardial infarction, it was established that during the first week of the disease the patients died of cardiological shock (14%), rupture of the myocardium (10.4%) and fibrillation (7.7%). During the second week the patients died of thromboembolism of the greater circulation (16.6%) and at later periods--of circulatory insufficiency (51.3%) mainly of the left ventricle (38.5%). Complete obliteration of the coronary arteries was more often encountered, thrombosis--more seldom. Table 1; References 8 (Russian).

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USSR

UDC 616.981.232-008.97-078

DEMINA, A. A., POKROVSKIY, V. I., KUZMENKO, S. V., DEVYATKINA, N. P., LARINA, L. I., SEMINA, N. A., ANDRIEVSKIY, V. I., UOGINTAS, G. P., RUTENE, K. L., TUGARINOVA, K. G., and VOTYAKOVA, F. A., Central Institute of Epidemiology and Sanitary Epidemiological Stations of Vil'nyus and Yaroslavl

EPIDEMIOLOGICAL AND LABORATORY CRITERIA IN THE ASSESSMENT OF MENINGOCOCCUS CARRIER STATE

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 1 Dec 75 pp 79-85

[Text-English language abstract supplied by authors] A study was made of the duration of meningococcus carrier state, immunological indices and group-specific properties of meningococci isolated from them. The periods of meningococcus discharge were studied in 738 persons. Three categories of the carrier state were revealed: a single discharge (67% of the carriers), of average duration (up to 4 weeks), and prolonged. Greater indices of group-specific antibodies (in the passive hemagglutination test) were 1/2

USSR

DEMINA, A. A., POKROVSKIY, V. I., KUZMENKO, S. V., DEVYATKINA, N. P., LARINA, L. I., SEMINA, N. A., ANDRIEVSKIY, V. I., UOGINTAS, G. P., RUTENE, K. L., TUGARINOVA, K. G., and VOTYAKOVA, F. A., ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII No 10 Oct 76 pp 79-85

revealed in the carriers with prolonged presence of meningococci in the nasopharynx. Dynamics of immunological indices and periods of the carrier state formation in foci of infection permitted characterizing the prolonged carrier state as a latent form of meningococcus infection. A study of the group-specific properties in 1845 strains and comparison of the group-specific pattern of the circulating strains with the epidemic situation indicated that meningococci of group A were not only epidemic, but also more virulent. Figure 1; Tables 3; References 14: 8 Russian, 6 Western.

2/2

Food Supply

USSR

SNITSAR', A., candidate of agriculture sciences, All-Union Scientific Research Institute of the Meat Industry

PROBLEMS OF RAISING THE QUALITY AND BIOLOGICAL VALUE OF FOOD PRODUCTS AND INDUSTRIAL FATS OF ANIMAL ORIGIN

Moscow MYASNAYA INDUSTRIYA SSSR in Russian No 9 Sep 76 pp 43-46

[Abstract] A conference on this subject was organized and convened in Gor'kiy by the Ministry of Agriculture USSR, the All-Union Academy of Agricultural Sciences imeni V. I. Lenin (VASKhNIL), and the Central Administration of the Scientific-Technical Department of Agriculture. Veterinary physicians, zootechnologists, and representatives of enterprises, teaching and scientific research institutes participated. Participants in the plenary session included VASKhNIL academicians A. A. Polyakov, V. P. Shishkov, and N. G. Belen'kiy, deputy chief of the Main Administration of the MA USSR L. P. Malanin, deputy chief of the Gor'kiy Oblast Production Administration of Agriculture A. I. Markisanov, deputy director for scientific work of

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USSR

SNITSAR', A., MYASNAYA INDUSTRIYA SSSR No 9 Sep 76 pp 43-46

VNIIVS (All-Union Scientific Research Institute of Veterinary Sanitation) candidate of veterinary sciences Yu. I. Boykov, chief of the Inspectorate of the Veterinary-Sanitary Service, Ministry of the Meat Industry USSR V. M. Tyurin, doctor of veterinary sciences V. M. Kartashova (VNIIVS), and meritorious activist of sciences RSFSR professor N. A. Spesivtseva (VNIIVS). The conference dealt extensively with quality of meat and milk products, feeds, and animal industrial fats. Report areas of interest included technologies for dry feeds, meat meal, blood meal, whole milk substitutes (All-Union Scientific Research Institute of Livestock Breeding), fats and hides, food conservation, effect of parasites on food quality (G. A. Kotelnikov, All-Union Institute of Helminthology imeni Skryabin), and the effect of organophosphorus pesticides on feeds.

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USSR

UDC 664.959.2

MAYSTRUK, P. N., LEVINTON, ZH. B., SOKOLOVA, A. G., ROGOVAYA, A. B.,
ZVENIGORODSKAYA, I. D. and BEZBORODKO, V. D., Kiev Scientific Research
Institute of Food Hygiene, LAGUNOV, L. L., and ORDUKHANYAN, N. I., All
Union Scientific Institute of Fish Protection

FISH PROTEIN CONCENTRATE -- A HIGH NUTRITIONAL VALUE PRODUCT

Moscow RYBNOYE KHOZYAYSTVO (Fish Economy) in Russian No 4, Apr 76 pp 73-74

[Abstract] Nutritional and biological value of a fish protein concentrate obtained from pollock has been investigated. The concentrate is a yellowish-grey powder with an 84.8% nitrogen content and containing such aminoacids as: lysine, methionine and tryptophan; its fat content is about 0.31%. Animal studies (white rats) showed that this concentrate has valuable biological and nutritional properties. Maximum transition from the digestive tract into the blood stream has been noted with 30 minutes. This appears to be a highly valuable nutritional additive. No figures, tables or references.

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USSR

UDC 664.959.5

FAN-YUNG, A. F., ITSKOVSKAYA, L. S., BIRYUKOVA, S. N., and DAVYDOVA, YE. V.,
Odessa Technological Institute of Food Industry imeni Lomonosov

CONSERVATION OF BLUE-GREEN ALGAE

Moscow RYBNOYE KHOZYAYSTVO (Fish Economy) in Russian No 4, Apr 76 pp 72-73

[Abstract] Experimental results are reported on conservation of blue-green algae responsible for water efflorescence. These algae represent a valuable plant raw material. Conservation was attempted by means of heat sterilization, but chemical conservation appeared to be more promising. Chemical composition of the conserved paste, recommended conservation agents and their recommended levels are tabulated. Table 1; no figures or references.

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USSR

UDC 664.951.014.001

LAGUNOV, L. L., and POLONSKAYA, M. N., All Union Scientific Institute of Fish Preservation

MICROBIOLOGICAL METHOD FOR THE DETERMINATION OF PROTEIN QUANTITY IN SEA PRODUCTS

Moscow RYBNOYE KHOZYAYSTVO (Fish Economy) in Russian No 4, Apr 76 pp 71-72

[Abstract] A test organism -- *Tetrahymena pyriformis* -- was used in determining protein content in sea products. The test is based on the fact that this organism is very sensitive to changes occurring in protein due to technological processing, also on the fact that ten essential amino acids are needed for normal growth of the test organism and that it absorbs food in two stages analogous to that of higher organisms and corresponding to the pepsin and trypsin phases. The relative value of the proteins is determined by the number of cells developed in 4 days in 1 ml of the medium and compared to a standard. Table 1; no figures or references.

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USSR

UDC 577.472(28)+475+628.394+519.24/27

KRENEVA, S. V., Institute of Limnology, Academy of Sciences USSR, Leningrad

QUANTITATIVE INTEGRAL METHODS OF BIOLOGICAL INDICATION OF CONTAMINATED
WATERS UNDER CONDITIONS OF A LARGE OLIGOTROPHIC BASIN

Moscow DOKLADY AKADEMII NAUK SSSR in Russian Vol 229, No 1, Jul/Aug 76
signed to press 24 Feb 76 pp 253-255

[Abstract] Two methods are recommended for estimation of water pollution in large oligotrophic basins: the method of integral quantitative index, and that of algorithms for image recognition. Both methods utilize biological, hydrochemical and hydrophysical components and are not subject to intensive dilutions of effluents. Using these methods, studies were performed in three different lake regions. In a rocky region, the distribution of microzoological plankton was found to be related to the rules described by Hynes. At the shores of open lakes intensive dilution of the effluents is noted due to a complex system of flow patterns. Here no clearly demarcated zones of elevated number of species can be found. To analyze it, a statistical model was construed utilizing the integral index of the degree of water pollution. This made it possible to represent changes in the hydrobiological
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USSR

KRENEVA, S. V., DOKLADY AKADEMII NAUK SSSR Vol 229, No 1, Jul/Aug 76 pp
253-255

situation and the distribution of impurities, which, in conjunction with the distribution of microzoological plankton, represents a typical distribution of lake contamination in given hydrobiological situations. Figure 1; References 4: 1 Russian, 3 Western.

USSR

UDC 616.927+616-008.97(salm. TYPHI))-097.3

BUNIN, K. V., FIRSANOV, V. I., KRAVTSOV, E. G., SUKHOROSLOVA, L. I., AND KAPUKA, L. P., Academic Scientific Research Group on Clinical Immunology, Academy of Medical Sciences USSR, First Moscow Medical Institute imeni Sechenov

A STUDY OF AVIDITY OF VI-ANTIBODIES IN PATIENTS SUFFERING FROM TYPHOID FEVER AND CHRONIC CARRIERS

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 29 Mar 76 pp 65-69

[Text-English language abstract supplied by authors] Avidity of Vi-antibodies was studied in patients suffering from typhoid fever and in chronic carriers in the indirect hemagglutination test (IHAT) by means of titration with erythrocytic diagnostic agents sensitized with various doses of the Vi-antigen. The minimal sensitizing dose still adequate for detection of the antibodies in the titre of 1:20 was accepted as the avidity index. By the avidity sign, the antibody heterogeneity index was calculated as the ratio of the optimal sensitizing dose to the minimal sensitizing one. In comparison with the patients suffering from typhoid fever at the acute 1/2

USSR

BUNIN, K. V., FIRSANOV, V. I., KRAVTSOV, E. G., SUKHOROSLOVA, L. I., and KAPUKA, L. P., ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII No 10 Oct 76 pp 65-69

period of the disease the Vi-antibodies were more avid in chronic carriers, this being conditioned chiefly by the highly avid IgG-antibodies. During the acute period of the disease the avidity of Vi-antibodies elevated only against the antibodies of the IgG-class. An increase of heterogeneity by the same sign was noted with increase of the degree of the serum antibody avidity. Figure 1; Tables 2; References 10 (Western).

USSR

UDC 615.371:576.851.49).015.46

STASILEVICH, Z. K., SERGEYEV, V. V., VOSKANYAN, N. A., KRYLOVA, R. I., YELKINA, S. I., and BULK, V. F., Institute of Experimental Pathology and Therapy, Academy of Medical Sciences USSR, Sukhumi, Moscow Institute of Vaccines and Sera imeni Mechnikov

IMMUNOLOGICAL EFFICACY OF LIVE STREPTOMYCIN-DEPENDENT SALMONELLAE VACCINES USED ORALLY IN EXPERIMENT ON MONKEYS

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 30 Dec 75 pp 55-60

[Text-English language abstract supplied by authors] Experiments were conducted on 99 monkeys; a study was made of the reactogenic properties and the immunological efficacy of streptomycin-dependent *S. enteritidis* and *S. typhimurium* mutants in oral application. The results of clinical, bacteriological, pathomorphological and fluorescent-serological studies demonstrated that the vaccines in the doses under study were areactogenic for monkeys in 5-fold oral administration and promoted development with subsequent three-fold (in 2 months) revaccination of the monkeys. Associated streptomycin-dependent *S. enteritidis* and *S. typhimurium* vaccine could be used for prophylaxis of salmonellosis in monkeys. Figures 3; Tables 4; References 9: 7 Russian, 2 Western.
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USSR

UDC 616.981.718-078

AMosenKOVA, N. I., and TOKAREVICH, N. K., Leningrad Institute of Epidemiology and Microbiology imeni Pasteur

BAND-PRECIPIATION TEST WITH SOLUBLE COXIELLA BURNETTI ANTIGEN IN THE DIAGNOSIS OF Q-RICKETTSIOSIS

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 27 Nov 75 pp 116-120

[Text-English language abstract supplied by authors] Soluble antigen obtained by the treatment of *Coxiella burnetti* of the I phase with trichloroacetic acid could be used in the capacity of a precipitinogen in the band-precipitation reaction in the diagnosis of Q-rickettsiosis and in mass epidemiological studies. Figures 2; Tables 2; References 12: 6 Russian, 6 Western.

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USSR

UDC 616.988.25-022.395.42-092.9-092.61

PEREKHODOVA, S. K., SEMENOV, B. F., KVETKOVA, E. A., and KONEV, V. P.,
Omsk Institute of Diseases of Natural Foci, and Institute of Poliomyelitis
and Viral Encephalitides, Academy of Medical Sciences USSR, Moscow

A STUDY OF HYPERSENSITIVITY OF DELAYED TYPE IN EXPERIMENTAL TICK-BORNE
ENCEPHALITIS

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 1 Jul 75 pp 120-125

[Text-English language abstract supplied by authors] Experiments were conducted on albino mice. With the aid of the test for inhibition of splenocyte migration in agar medium it was shown that tick-borne encephalitis virus caused a state of hypersensitivity of delayed type (HDT) expressed from the 3rd day after the infection and persisting up to the appearance of the clinical signs of the disease; in latent infection the HDT state persisted for a period of up to 50 days (observation period). At the same time the experimental animals displayed a weak splenocyte sensitization with the brain tissue, chiefly observed in cases of an acute infection and manifested occasionally in the latter course of tick-borne encephalitis. Figure 1; Tables 2; References 19: 5 Russian, 14 Western.

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USSR UDC 616-002.5-085.371:576.852.211)-059:615.281.221.1)-036.8 +
615.371:576.852.211).015.23:615.281.221.1

GEL'BERG, S. I., professor, and POZNYAK, S. B., Grodno Medical Institute

PRODUCTION OF ACTIVE SUBSTRAINS OF BCG WHICH ARE RESISTANT TO HINA

Moscow PROBLEMY TUBERKULEZA in Russian No 9 Sep 76 signed to press 30 Dec
75 pp 64-69

[Text-English language abstract supplied by authors] High-standard vaccinal BCG cultures resistant to the HINA--isoniazid--preparations are recommended for obtaining (using a single-stage method of selecting) spontaneous mutants from among strain populations and the BCG vaccine. A marked specific activity of these mutants has been ascertained with reference to a complex set of approbated characteristics, viz., adaptation and vegetation dynamics of the mycobacteria in albino mice; the degree of their vegetation with regular use of isoniazid; residual virulence (Jensen), sensitizing (guinea pigs) and immunogenic (guinea pigs, albino mice) activity, the rapidity of distribution, localization and the period of stay of these mutant mycobacteria antigens in the organs and tissues of guinea pigs; antigenic

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USSR

GEL'BERG, S. I., and POZNYAK, S. B., PROBLEMY TUBERKULEZA No 9 Sep 76
pp 64-69

stimulation-dynamics of production and detection of the antibodies in the serum of inoculated rabbits, etc. The said substrains merit practical testing in instituting immunochemoprophylaxis of tuberculosis and, possibly, also in clinical practice (in raising protective immunobiological forces of the organism when treating the disease with the HINA preparations). Tables 4; References 25: 19 Russian, 6 Western.

2/2

BULGARIA/USSR

UDC 615.916:546.815.]015.35.076

KHANDZHIYEVA, M., NEDELICHEVA, K., and POPOV, B., Sofiya, Bulgaria Hygiene Center at the Medical Academy

5-HYDROXYINDOLEACETIC ACID AS A BIOLOGICAL TEST FOR LEAD ABSORPTION

Moscow GIGIYENA TRUDA I PROFESSIONAL"NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 24 Apr 75 pp 52-54

[Abstract] It has been noted that workers who are exposed to lead under industrial conditions have elevated levels of 5-hydroxyindoleacetic acid (5-HIAA) in their urine even in absence of clinical symptoms of plumbism. This may be due to the toxic effect of lead on the metabolism of tryptophan. The concentration of 5-HIAA in urine increases in direct relationship to increased concentration of lead in the air of the working zone. Therefore, this test may be used as a biological marker for early diagnosis of lead poisoning. Table 1; References 14: 1 Russian, 13 Western.

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USSR

UDC 613.633:546.33.264

KAMAL'DINOVA, M. M., VOL'FSON, M. P., IVANOV, N. G., ZAGRETDINOVA, G. G., and RODNIKOV, A. V., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

INVESTIGATION OF THE EFFECT OF CALCINED SODIUM CARBONATE AEROSOL ON THE ORGANISM (NATURAL AND EXPERIMENTAL STUDIES)

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 5 Sep 75 pp 55-57

[Abstract] Under industrial conditions production of calcined sodium carbonate is accompanied by extensive dust formation. This agent has been established as a specific irritant leading to toxic manifestations among the exposed workers: damage to upper respiratory airways both in experimental animals and in workers. On the basis of experimental and hygienic studies, the maximum permissible concentration of the calcined sodium carbonate has been set at 2 mg/m^3 . No tables or figures. References 4 (all Russian).

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USSR

UDC 612.017.1-06:613.6:621.612+613.6:621.612]-07:612.017.1

LYCHAGIN, V. V., ADAMOVICH, G. G., MIKHAYLOVA, T. N., KOZLOVA, YU. G., KINZHIBALOVA, ZH. V., and FILIPPOV, O. V., Tomsk Industrial Union "SIBKABEL", Medical Institute

EVALUATION OF IMMUNOLOGICAL REACTIVITY AMONG THE WORKERS OF GLASS INSULATING AND ENAMELLING DEPARTMENTS OF A CABLE PLANT

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 16 Jan 76 pp 24-26

[Abstract] The effect of some toxic substances and glass fiber dust in the air on the humoral and cellular characteristics of natural immunity of female workers was determined at the glass insulation and enamelling departments of a cable plant. The measurements were done on the content of acrolein, chlorobenzene, acetone, glass fiber and phenol in the air around the working zones. The glass insulation workers demonstrated immunological changes manifested by reduced bactericidal activity of skin, disturbed phagocytic activity of leucocytes, diminished capacity of neutrophils to absorb microbes and less efficient intracellular digestion. The extent of these changes

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USSR

LYCHAGIN, V. V., ADAMOVICH, G. G., MIKHAYLOVA, T. N., KUZLOVA, YU. G., KINZHIBALOVA, ZH. V., and FILIPPOV, O. V., GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA No 11, Nov 76 pp 24-26

was directly proportional to the length of employment. A record was also made of higher incidence of dermal infections, occupational dermatites and chronic respiratory problems. The enamelling workers showed only a reduced absorption capacity of neutrophils. Tables 3; References 4 (all Russian).

2/2

USSR

UDC 616.36-099:547.552.1]-057.678

SHARONOVA, Z. V., and KRYZHANOVSKAYA, N. A., Institute of Labor Hygiene and Occupational Diseases, Gor'kiy

OCCUPATIONAL PATHOLOGY OF LIVER CAUSED BY TOLUYLENEDIISOCYANATE

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 5 Jan 76 pp 27-31

[Abstract] One of the symptoms of occupational intoxication with toluylenediisocyanate is the development of toxic-chemical liver lesions accompanied by disturbances of liver functions such as protein genesis, lipid and excretory-absorbing functions with a tendency toward disrupted pigmental metabolism. In 75% of the cases, toxic hepatitis concurred with positive results characterizing the state of sensitization. These liver lesions ran a benign course, responding well to treatment. Proper job placement of the patients helped in normalizing clinical manifestations and functional capacity of the liver. Tables 4; References 19 (all Russian).

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USSR

UDC 616-056.3-057:677.37

SAAKADZE, V. P., Institute of Labor Hygiene and Occupational Diseases, Tbilisi

NATURAL SILK AS AN OCCUPATIONAL ALLERGEN

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 29 Apr 76
pp 13-16

[Abstract] Natural silk should be considered as a potent industrial allergen causing occupational allergy among workers at all production stages. The epidemiology, clinical symptoms and pathogenic characteristics of occupational allergies of the respiratory tract were studied. Occupational genesis of the infection was supported by a series of allergologic and immunologic tests and good results of specific hyposensitivity: positive dermal and inhalation tests, reaction of passive transmission of antibodies and passive hemagglutination test and, finally, basophil and neutrophil damage tests. It has been stressed that in an attempt to introduce prophylactic measures, peculiarities of the technological process must be considered at each step of the production line. No tables or figures, references 7: 4 Russian, 3 Western.

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USSR

UDC 614.715

NEMENKO, B. A. and DOBRITSA, V. P., Kazakh Scientific Research Institute of Oncology and Radiology; Department of General Hygiene, Alma-Ata Medical Institute

POSSIBILITY OF CARCINOGENIC NITROSAMINE FORMATION IN THE ATMOSPHERE

Alma-Ata ZDRAVOOKHRANENIYE KAZAKHSTANA in Russian No 9(366), Sep 76 pp 22-25

[Abstract] Some recent work on potent carcinogenic nitrosamines demonstrates their in vitro and in vivo formation. Automobile exhaust raises the level of NO₂ in the air, with the ratio of NO₂ to NO increasing with engine temperature. The air of Alma-Ata was analyzed for secondary amines and NO₂ at 172 locations in the spring and summer of 1976 using the Vinograd method for amines and aspiration for NO₂. It was found that NO₂ levels exceeded safe limits only at highways but that secondary amines were present in concentration from 0.05-0.1 mg/m³, enough for nitrosamine formation. The two nitrosamine components were also detected in cigarette smoke, so that nitrosamine formation is likely in a smoke-filled room. References 5: 20 Russian, 3 Western.

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USSR

UDC 613.34:628.315:678.675'126

KOVTUN, V. P., Kemerovo Medical Institute

SANITARY-TOXICOLOGIC EVALUATION OF CAPROLACTAM PRODUCTION EFFLUENT TREATED
AT BIOLOGICAL INSTALLATIONS

Moscow GIGIYENA I SANITARIYA in Russian No. 8, 1976 signed to press
28 Apr 75 pp 15-19

[Abstract] Caprolactam production effluent is biologically treated using a mixing chamber, aeration tank-mixer with regenerators, and secondary settling tanks. Tanks and silt ponds are used to treat the excess silt. Even after biological treatment, the water still contains some residual concentration of cyclohexanone, cyclohexanol, cyclohexanone oxime, caprolactam and benzene, plus large quantities of nitrates and nitrites. Biological treatment itself may also form intermediate oxidation products and other organic compounds. Animal experiments indicate that the effluent from caprolactam production, following treatment at biological installations, is still toxic to white mice. Dilution by a factor of 85:1 reduces the content of harmful chemicals to their MPC, but even at this level the effluent still has some harmful effects on the experimental animals.

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Microbiology

BULGARIA

RIZVANOV, K., VLADIMIROV, I., and DONCHEV, R., Higher Agricultural Institute of Zootechny and Veterinary Medicine, Stara Zagora, Bulgaria

A PREPARATION OF LYOPHILIZED BACTERIA AS A SUBSTITUTE FOR ANTIBIOTICS IN THE FEED OF BROILERS

Sofia DOKLADY BOLGARSKOY AKADEMII NAUK in English Vol 29 No 8 1976 pp 1177-1178

[Abstract] Objections have been voiced in recent years to incorporation of antibiotics into animal feeds because this overuse of antibiotics can lead to increased numbers of antibiotic-resistant bacteria, and to dysbacteriosis. The authors suggest that certain preparations, with action analogous to antibiotics, developed by them from lactic-acid and propionic-acid bacteria and other microorganisms can be used as substitutes for the antibiotics, in the feed of chickens (broilers). They tested their bacterial preparation on 200 male White Plymouth Rock chickens. The animals, at the age of 3 days, 61-62 g, were divided into four groups. Group I was the control; Group II received 14 g biovit 101 (an unpurified chlorotetracyclin) per 100 kg of starter and finisher mixed feeds; Group III--14 g biovit 101 and 1/2

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RIZVANOV, K., VLADIMIROV, I., and DONCHEV, R., DOKLADY BOLGARSKOY AKADEMII NAUK Vol 29 No 8 1976 pp 1177-1178

50 g bacterial preparation (per 100 kg feed); Group IV received 50 g bacterial preparation. One gram of the preparation contained $10^{8.1.3}$ bacterial cells.

At the age of 42 days, Group IV registered the highest weight gain (1090g) and the best feed conversion efficiency (2355 g per kg of weight gain). Differences of figures from Groups I and IV and Groups I and II were statistically significant ($P < 0.01$ and $P < 0.05$ respectively). After age 42 days the effect of the additives decreased and disappeared. The effect of the bacterial preparation was not inferior to that of antibiotics recorded in other experiments.

Data are also presented which reveal that the bacterial preparation reduced the number of putrefactive bacteria in the chicken digestive tract, and increased the number of lactic-acid bacteria. (N. B.: The authors do not describe how they developed their preparation, but cite two references to earlier work by them: Zhivotnovedni nauka Sofia, IX, 1972, 7, 47, and the same journal X, 1973, 5, 83) Tables 2; References 6: 3 Bulgarian, 3 Western.

2/2

USSR

UDC 616.981.553-07

BATEYKO, V. YA., candidate of medical sciences, and GAVURA, V. V., Zaporozhe Infectious Diseases Clinical Hospital No 2

DIAGNOSIS AND COURSE OF BOTULISM

Moscow KLINICHESKAYA MEDITSINA in Russian Vol 54 No 9 Sep 76 signed to press 3 Jun 75 pp 102-104

[Text-Russian language abstract supplied by authors] The clinical symptoms and course of the toxic infection in 53 botulism patients were examined. Despite a characteristic symptom complex composed of a combination of the general infection symptoms, dyspeptic disturbances, and neuromuscular manifestations, 2/3 of the patients were at first treated by oculists, internists, neuropathologists and otolaryngologists, and were referred into the in-patient hospital more than 48 h after start of the disease and, consequently, did not receive specific therapy during the first days. The authors direct attention to the inadequate knowledge of the polyclinic physicians with respect to botulism symptoms. References 9 (Russian).

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USSR

UDC 613.288:576.851.49(SHIGELLA)

DOBROVOL'SKAYA, V. M., and KOLESOVA, V. N., First Moscow Medical Institute imeni I. M. Sechenov

SURVIVAL OF SHIGELLA SONNEI IN CHEESE

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian No 10 Oct 76 signed to press 20 Nov 75 p 144

(Abstract) The authors have explored cheese as a potential factor in transmission of dysentery, and tested persistence of *S. sonnei* in cheese samples "Rossiyskiy", "Cheddar", and brinze (a Caucasus cheese). Tests were made on samples which were tested free of pathogenic bacteria. Survival of *S. sonnei* in cheese contaminated with it depended on storage temperature. The shigella survived longer (up to 45 days) when the cheese was refrigerated (2-4°) than when kept at room temperature (up to 8 days--17-23°). Survival time for brinze at room temperature was about 2 days and is attributed to high salt content. Results indicate that cheese can be of epidemic significance as a factor in transmission of dysentery. No references.

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USSR

UDC 614.777-078:576.851.4

KALINA, G. P., Scientific Research Institute imeni Erisman

BACTERIA OF THE PROTEUS GENUS IN SURFACE WATERS

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 29 Jan 76 pp 24-31

[Text-English language abstract supplied by author] The authors present the results of quantitative and qualitative detection of bacteria of the Proteus group in the surface waters of various degrees of contamination. By a new method of study there was revealed a number of regularities reflecting the ecology of these microbes in water. There proved to be a distinct correlation between the degree of water contamination by salmonellae and Proteus at various seasons of the year (the prevalence in spring and autumn and reduction in summer and winter). Pr. morgani prevailed over the other Proteus species in water bodies relatively clean by other indices, this pointing to their prolonged survival and possibly reproduction in surface waters. This accounted for the correlation between the quantitative content of salmonellae and Proteus in highly contaminated waters in towns and a discrepancy in these indices below the town boundaries, where the processes of water self-purification begin to prevail. Figures 3; Tables 2; References 7: 5 Russian, 2 Western.

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USSR

UDC 576.851.49.097.29

STANISLAVSKIY, YE. S., and VOLYNSKIY, M. YA., Moscow Institute of Vaccines and Sera imeni Mechnikov

ENTEROBACTERIAL ENTEROTOXINS

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 18 Dec 75 pp 3-9

[Abstract] This extensive review of world-wide studies of enterotoxins has been prepared in connection with the importance of enterotoxigenesis as the leading pathogenetic factor in cholera and cholera-like diarrheas. Several contributions of Soviet authors are cited, I. V. Golubeva made a detailed study of filtrates of 130 strains of E. coli isolated from 48 different sources, including patients with diarrhea, pyelonephrites, cystites, from healthy people, laboratory animals and water from open reservoirs. She found that the filtrates contained a thermolabile protein exotoxin with neurotropic activity. Stanislavskiy and Volynskiy, the authors, established the activity of preparations from E. coli 015 using the methods

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USSR

STANISLAVSKIY, YE. S., and VOLYNSKIY, M. YA., ZHURNAL MIKROBIOLOGII EPIDEMIOLOGY No 10 Oct 76 pp 3-9

of ligated segment of rabbit intestine, and the skin test. They found fractions which were inactive in the ligated intestinal segment, but which had PF- activity. They feel the skin test is more sensitive and assume that PF and enterotoxic activity are different properties of the same protein molecule, or of two closely-related molecules. M. N. Dzhaparidze, et al., obtained a cholera-anatoxin from strain 569 Inaba Pakistan, the injection of which stimulated production of specific antitoxic and vibriocidal antibodies, and which appeared superior to El Tor or cholera vaccines. Dzhaparidze, and also, A. A. Sumarikov and V. L. Lelikov, support the prospects of active immunization of people with a cholera toxoid to create immunity against cholera, and, possibly, coli-diarrheas. Tables 3; References 48: 9 Russian, 39 Western.

2/2

USSR

UDC 616.988.722

LADNYI, I. D., DAVYDOV, S. U., and OGORODNIKOVA, Z. I., Ministry of Health USSR

HEMORRHAGIC DENGUE FEVER

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian No 10 Oct 76 signed to press 4 Sep 75 pp 9-15

[Abstract] This is primarily a summary of data on dengue fever revealed at a session of the first technical consultative committee on dengue held in Manila in March 1974 under the auspices of the WHO. Related Soviet publications which are cited are not recent: I. S. Bezdenezhnykh, et al., 1958; D. V. Vinogradov-Volzhinskiy, et al., 1966; I. A. Kassirskiy, et al., 1959; A. V. Krutovskiy, 1956. Apparently, not a single case of dengue fever has been recorded in the USSR up to the present. The authors point out, however, that a vector of the virus, the Aedes aegypti mosquito, inhabits the Caucasus coast of the Black Sea (Western Georgia from Sukhumi to Batumi) and of the Caspian Sea, although there is little likelihood that the virus circulates in this zone. Table 1; References 13:

4 Russian, 9 Western.

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USSR

UDC 614.777-074:/576.851.315:576.858.9/-07

GRIGOR'YEVA, L. V., KORCHAK, G. I., and PONOMAREVA, L. V., Kiev Scientific Research Institute of General and Communal Hygiene imeni Marzeyev and The Polar Scientific Research and Design Institute of Sea Fisheries and Oceanography imeni Knipovich

DETECTION OF BDELLOVIBRIOS AND BACTERIOPHAGES IN THE SEA WATER NEAR THE SHORE

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 9 Feb 76 pp 41-44

[Text-English language abstract supplied by authors] The frequency of occurrence of bdellovibrios and intestinal bacteriophages at the sites of contamination in the sea and along the sea shore and at the points remote from the sources of contamination was studied. At the contaminated sites bdellovibrios were revealed in 73.3-100% and bacteriophage in 75-83.4% of the samples. There was found to be a moderate correlative association between the bdellovibrios, bacteriophages and the coli titre. In the water of the shore region of the sea bdellovibrios were found in 15.4%, and bacteriophages in 20.9% of the samples. An attempt at a sanitary assessment of beaches by the data of bdellovibrio detection was unsuccessful.
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USSR

GRIGOR'YEVA, L. V., KORCHAK, G. I., and PONOMAREVA, L. V., ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII No 10 Oct 76 pp 41-44

There was found no correlative association between the coli-titre and the bdellovibrios in the water of the shore area. Bdellovibrio proved to play an insignificant role in the processes of self-purification from the intestinal microbial flora of weakly and moderately contaminated sea water. Taking into consideration the high resistance in the sea water of the intestinal bacteriophages, preference was given to them over the bdellovibrios as the index of the sea water contamination.
References 6: 2 Russian, 4 Western.

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USSR

UDC 576.851.551.094.81

KOROVINA, V. P., CHIKISHEV, YE. V., and VAISMAN, I. SH., Perm Institute of Vaccines and Sera

ENHANCEMENT OF TOXIN PRODUCTION AND SPOROGENESIS IN CL. TETANI 471 CULTURES UNDER THE INFLUENCE OF ENDOGENOUS METABOLITES

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 19 Dec 75 pp 102-106

[Text-English language abstract supplied by authors] A study was made of the dynamics of the population quantity, the delicate morphology of the bacterial cells and toxin formation in Cl. tetani 471 cultures grown in fluid nutrient medium with casein hydrolysate in industrial 100-litre reactors and under laboratory conditions. Endogenous metabolites contained in the filtrates of the periodic Cl. tetani toxin formation when introduced in the amount of up to 1:100 at the beginning of the exponential growth of the same cultures in the reactors. The growth of the oligosporogenic strain in the filtrates of the periodic cultures obtained at the 1/2

USSR

KOROVINA, V. P., CHIKISHEV, YE. V., and VAISMAN, I. SH., ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII No 10 Oct 76 pp 102-106

beginning of the stationary phase or of the accelerated death phase was characterized by a slower increase in the vegetative cell count, by enhanced spore-formation and by a second, after the initial, increase in the concentration of the microbes partially connected with the spore vegetation. Figures 3; References 12: 9 Russian, 3 Western.

USSR

UDC 663.14:663.53

YERMACHENKO, V. A., KALINKIN, D. A. and ZALASHKO, M. V., Bobriyskiy Hydrolytic Plant, Institute of Microbiology, Academy of Science, Belorussian SSR

THE CULTIVATION OF NUTRIENT YEAST ON MIXED NEUTRALIZATES OF UPLAND PEAT AND WOOD PULP

Minsk VESTSI AKADEMII NAUK BSSR, SERIYA BIYALAGICHNYKH HAVUK in Ukrainian No 5, 1975 pp 58-59

[Russian abstract provided by the source]

[Text] It is demonstrated that the cultivation of the yeast *Candida scotti* on mixed substrate, including wood pulp neutralizate and 5% (by reducing substances) peat neutralizate, leads to some increase in the relative growth rate of the yeast and an increase in the protein content of the biomass. Joint processing of peat and wood pulp hydrolysates makes it possible to significantly expand the raw material sources of plants for the production of nutrient yeast. Figures 2; Tables 1; References 1: 1 Russian.

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USSR

UDC 614.777-078:576.851.49.07

GIPP, YE. K., Moscow Scientific Research Institute for Hygiene imeni F. F. Erisman

EVALUATION OF VARIOUS METHODS OF REMOVAL OF SALMONELLA FROM SURFACE BODIES OF WATER

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 20 Mar 75 pp 67-69

[Abstract] Recently, various methods have been suggested for increasing the effectiveness of removal of salmonella, including aeration of the nutrient substrate, incubation of inoculations at higher temperatures for longer periods of time and preliminary growth of inoculations. The author tests these methods of investigation on a magnesium accumulation medium. Aeration of the medium, increasing the time and temperature of incubation and preliminary growth in lactose bouillon, do not increase the recovery of salmonella. An increase in the salmonella index can be achieved by filtration of the water through cotton using secondary inoculation in 5% magnesium chloride. These studies show some variation between laboratory and field results.

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USSR

UDC 576.8.093.1

ATAMANYUK, D. I. and VAKAR', L. I.

CULTIVATION OF THE YEAST RHODOTORULA GRACILIS K-1 ON WHEY AND SELECTION OF A COMMERCIAL NUTRIENT MEDIUM

Kishinev IZVESTIYA AKADEMII NAUK MOLDAVSKOY SSR. SSR. BIOL. I KHIM. NAUK in Russian No 4, 1976 pp 48-50

[Abstract] The pigment yeast *Rhodotorula gracilis* K-1 was cultured on various modifications of whey media (undiluted, diluted with water, diluted with water and 4% molasses added, diluted with water and 2% tomato paste added, diluted with water and molasses and tomato paste added) to study its growth habits and carotene and lipid production. On the medium diluted with water, the yield was 9.3 g/liter of dry biomass, 323 $\mu\text{g/g}$ of carotenoid pigments, and 10.4% total lipids. On whey with molasses added, the biomass and lipids doubled while the quantity of carotene production almost tripled. On whey with tomato paste, the biomass was much smaller than on the medium with molasses (12.6 and 18.0 g/liter, respectively), but the carotenoids and lipids were about the same. The addition of both molasses and tomato paste substantially increased the yeast biomass (24.4 g/liter) and to a slightly lesser extent the synthesis of carotenoids and lipids (820.8 $\mu\text{g/g}$ of dry biomass) and 19.7%). Tables 3; References 4: 3 Russian, 1 Western.

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USSR

UDC 616.5-002.828 (SPOROTRICHUM)

BELYAYEV, N. V., OKSENOV, B. S., and URAYEVA, L. G., Tomsk Medical Institute and Tomsk Oblast Dermatological and Venereological Clinic

AN UNUSUAL COURSE OF SPOROTRICHOSIS

Moscow VESTNIK DERMATOLOGII I VENEROLOGII in Russian No 9, 1976 pp 69-72

[Abstract] One of the first confirmed cases of sporotrichosis in Siberia was reported in January 1974 when a 27-year-old carpenter living in a northern area of Tomsk Oblast suffered, without apparent cause, eruptions on the hands and legs. They gradually spread in the form of round or oval papules, (242 discrete elements) the size of a cherry pit, to the face, neck, chest, back, and lumbosacral region. The patient responded to treatment with 50% potassium iodide, vitamins, and symptomatic agents. The case is of interest because it demonstrates the universal prevalence of the causative agent and possibility of its infecting human beings even in localities with a bleak climate such as northern Tomsk Oblast. The multiple foci of the infection was another unusual feature of the case. References 12: 10 Russian, 2 Western.

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USSR

UDC 612.791:547.292.181.5

ODINTSOVA, N. A., Scientific Research Laboratory, Ministry of Health USSR, Moscow

PERMEABILITY OF THE EPIDERMIS TO LEAD ACETATE REVEALED BY LIGHT AND ELECTRON MICROSCOPY

Moscow VESTNIK DERMATOLOGII I VENEROLOGII in Russian No 9, 1976 signed to press 14 Jul 75 pp 19-24

[Abstract] Exposure of rat epidermis in vivo and in vitro to 0.5 and 10% lead acetate solutions for 1 to 24 hours resulted in their penetration of the horny layer. In vitro, the 10% lead acetate solution penetrated all the layers of the epidermis and corium after 24 hours' exposure. Human skin (from dead bodies) proved to be less permeable to lead than rat skin. Injury to the horny layer accelerated the penetration of lead through the epidermis in vitro but had practically no effect on the epidermis in vivo. Electron microscopy revealed deeper penetration of lead and did so sooner than light microscopy. Figures 7; References 10: 6 Russian, 4 Western.

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USSR

UDC 572-788

ZURABASHVILI, Z. A., LOGUA, K. SH., and KIKODZE, N. A., Scientific Research Institute of Psychiatry imeni M. M. Asatiani, Ministry of Health Georgian SSR

ULTRASTRUCTURAL CHANGES IN THE CNS OF EXPERIMENTAL ANIMALS IN CHRONIC MORPHINE INTOXICATION

Tbilisi SOOBASHCHENIYA AKADEMII NAUK GRUZINSKOY SSR (Bulletin of the Academy of Sciences, Georgian SSR) in Russian Vol 83, NO 1, Jul 76 signed to press 29 Apr 76 pp 161-163

[Abstract] Three experimental groups of 4 dogs each were studied using daily administration of 0.008 mg morphine per kg body weight in the following fashion: 1) one month study with immediate sacrifice, 2) six months study with immediate sacrifice and 3) one month study, sacrifice one month after the last dose. It has been shown that morphine induces certain ultrastructural changes in the matrix of the cytoplasm as well as in the organelles in all of these three groups. Individual reactions are discussed. No tables or figures, 8 Russian references.

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USSR

UDC 617-089.5-031.81-07:616.831-073.97

DARBINYAN, T. M., BOGDANOV, K. YU., and VAGINA, M. A., Institute of Surgery imeni A. V. Vishnevskiy, Academy of Medical Sciences USSR, Moscow

COMPARATIVE INFORMATIVENESS OF SUMMARY EEG, HIGHFREQUENCY EEG COMPONENTS, AND EVOKED RESPONSES, IN A STUDY OF MECHANISMS OF GENERAL ANESTHESIA

Moscow VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR in Russian No 11 1976
pp 3-12

[Abstract] Onset of the surgical stage of anesthesia in general anesthesia with propanidid, ether, altesin, and ketamin anesthetics, is always accompanied by a lowering in amplitude of the highfrequency components of the EEG, caused by a decrease in average frequency of spontaneous activity of the cortical neurons. The amplitude of an evoked response (ER) is not always proportional to the number of nervous cells responding to a stimulus; under propanidid narcosis, ER increases, while the number of excited nervous cells decreases. Hence ER is not always an indicator of the level of general anesthesia. The EEG and ER reflect subthreshold (but not pulse) fluctuation of potential on the membranes of the nervous cells; hence,

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DARBINYAN, T. M., BOGDANOV, K. YU., and VAGINA, M. A., VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR No 11 1976 pp 3-12

when studying mechanisms of general anesthesia, they permit only indirect insight into the excitability of the cerebral cortex, while the amplitude of the highfrequency components of the EEG is proportional to the level of the pulse activity of the cortical neurons. Equipment employed was an 8-channel Orion EEG (Hungary), VC-7A oscilloscope (Nihon-Koden, Japan), NTA-1024 analyzer (EMG, Hungary), a HU recorder (Honeywell, USA), and a PC-AZ camera (Nihon-Koden, Japan). Figures 11; References 25: 9 Russian, 16 Western.

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USSR

UDC 612.172-087.7:681.31

BUNYATYAN, A. A., FLEROV, YE. V., SABLIN, I. N., ORBELOVA, V. V., LENSKIY, V. V., KOZITSKIY, G. A., Institute of Clinical and Experimental Surgery, Ministry of Health USSR: First Moscow Medical Institute imeni I. M. Sechenov

COMPUTERIZED EVALUATION OF THE MYOCARDIUM CONTRACTILE CAPACITY IN REAL TIME

Moscow VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR in Russian No 11 1976
pp 37-42

[Text-English language abstract supplied by authors] A method for calculation of the maximum rate of shortening the contractile elements of the heart (V_{max}) with the use of an analogo-digital complex (ADC) is described. The program of calculating V_{max} is a part of the complex of programs used for automatized treatment of data on pressure in the left ventricle, aorta and pulmonary artery and volumetric circulation rate in the central or peripheral vessel. The program ensures automatized search for the phase of isometric contraction, accumulation of data on several cardiac cycles and calculation of V_{max} by the least squares method. The data obtained by ADC method in experiments on animals are presented. Figures 2; References 13: 2 Russian, 11 Western.

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USSR

UDC 614.7-07:612.82-087.5

PAVLENKO, S. M., and KUDRIN, L. V., Moscow Scientific Research Institute for Hygiene imeni F. F. Erisman

COMPARATIVE EXPERIMENTAL DATA ON THE STUDY OF THE CONDITION OF THE CENTRAL NERVOUS SYSTEM BY THE METHOD OF CONDITIONED REFLEXES AND THE METHOD OF THE SUMMATION-THRESHOLD INDICATOR IN HYGIENIC NORMALIZATION

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 26 Sep 75
pp 64-67

[Abstract] A comparative study of the status of the central nervous system of white rats by the conditioned reflex method and the summation-threshold indicator method in chronic experiments shows that the summation-threshold indicator method can be used as an indicator of the functional status of the central nervous system of experimental animals. Both methods were used to study the central nervous system, and both revealed similar levels of doses of substances (effective, threshold and ineffective). The sensitivity of the summation-threshold method increases greatly when a specific functional load such as anodization of the brain is used. The method of conditioned reflexes is more informative and more specific for the cells of the cerebral cortex.

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LEUSHINA, L. I., and NEVSKAYA, A. A., Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad

FEATURES OF MONOCULAR ESTIMATION OF LINE ORIENTATION BY RIGHT AND LEFT EYE
AND THEIR POSSIBLE NEUROPHYSIOLOGICAL MECHANISMS

Moscow DOKLADY AKADEMII NAUK SSSR in Russian Vol 229, No 1, Jul/Aug 76
signed to press 4 Mar 76 pp 237-240

[Abstract] An investigation was carried out on systematic errors in monocular estimation of line orientation as an extension of earlier observations that one-eye observation shifts the position of an object clockwise or counterclockwise, depending on the eye. Experiments were performed on a monocular tachistoscopic instrument with a 12° round field of vision. Lines 4° long were used as stimuli, oriented in horizontal, vertical, or 45° positions. It was noted that, in fact, two subjects showed clockwise shift in direction estimation, one showed a counterclockwise error; the differences were statistically significant. The errors have counterdirectional orientation with respect to each of the eyes. The original orientation of a line viewed by the right and left eye are shifted along the scale of nerve activity, as described by the recently discovered binocular cortical
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USSR

LEUSHINA, L. I., and NEVSKAYA, A. A., DOKLADY AKADEMII NAUK SSSR Vol 229, No 1, Jul/Aug 76 pp 237-240

neurons reacting to a specific line shift relative to the frontal plane. If one assumes that the criteria separating individual classes of stimuli on the nerve activity scale are independent of how the observation is made, then the responses of the location of a stimulus observed by the right eye or the left one will be shifted in the opposite direction. If the orientation of a line is described in three dimensions with respect to sight fixation, then the systemic errors can be explained. Figures 2; References 11: 7 Russian, 4 Western.

USSR

UDC 614.8-057:6221.33

TISHCHENKO, A. N., MIKHAYLENKO, N. M., SEMESENKO, M. P., PERVOMAYSKIY, B. YA., and SARANCHA, S. D., Voroshilovgrad Oblast' Clinical Hospital

ANALYSIS OF INDUSTRIAL TRAUMATISM IN THE COAL MINES AND ITS PROGNOSIS

Moscow ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE (Orthopedics, Traumatology and Prosthesis Fitting) in Russian No 5, May 76 signed to press 2 Jun 75 pp 77-80

[Abstract] An analysis of accidents in Voroshilovgrad mines is given. Most of the accidents occurred underground due to cave-ins. Other factors analyzed: machinery, organizational aspects, age of the miners, work longevity, shift effect, day of the week effect, etc. In a preceding paper a mathematical model had been developed for predicting work-related disability. On the basis of such analyses a series of corrective measures has been proposed. No tables or figures, one Russian references.

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USSR

UDC 617.57/.58-009.86-001.34

ARTAMONOVA, V. G., DOBROMYSLOVA, O. P., and ZHEBROVSKAYA, N. YE., Sanitation-Hygienic Medical Institute, Leningrad

BLOOD CIRCULATION IN THE LIMBS OF PATIENTS WITH ANGIODYSTONIC DISORDERS OF VIBRATIONAL GENESIS

Moscow GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA (Labor Hygiene and Occupational Diseases) in Russian No 11, Nov 76 signed to press 18 Jun 75 pp 32-35

[Abstract] In 68 patients with angiodystonic disorders resulting from exposure to excessive vibrations, blood circulation in upper and lower extremities was examined rheographically using functional tests, employing different positions of the limbs. The blood circulation was found to be affected, although the changes were not as severe as in case of organic lesions of the vessels (endarteritis or atherosclerosis); they were reversible. The orientation and magnitude of the rheographic values in the functional tests could serve as one method of evaluating the extent of circulatory disorders. Figures 2; References 7 (Russian).

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USSR

UDC 614.777

GONCHARUK, YE. I., and PROKOPOV, V. A., Kiev Medical Institute

PURIFICATION AND DISINFECTION OF HOSPITAL SEWAGE AS A HYGIENIC PROBLEM

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 30 Jun 75
pp 11-15

[Abstract] Given the current status of research in the treatment and disinfection of hospital sewage, the authors believe that the trends which should be followed in immediate future research include deeper study of the quantity and quality of hospital sewage, with determination of its mineral, organic and microbial content, scientific foundation of the selection of the most efficient and economically justified sewerage systems for the sewage from infectious-disease and tuberculosis hospitals, hygienic evaluation of new treatment structures, recommended sanitary techniques and development of principles for determination of the suitability of various treatment centers for hospital sewage, as well as the search for new means for disinfecting and promising methods for decontamination of hospital sewage and determination of the conditions of disinfection with development and hygienic evaluation of methods of treatment of the infectious sediment from hospital sewage.

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USSR

UDC 616-00215-036.22

KOLOMIETS, V. M., Tuberculosis Course, Voroshilovgrad Medical Institute

TUBERCULOSIS HIGH-RISK GROUPS AT AN INDUSTRIAL ENTERPRISE

Moscow PROBLEMY TUBERKULEZA in Russian No 9 Sep 76 signed to press 28 Jan 76 pp 6-9

[Abstract] The groups were employed at large machine construction factories in Voroshilovgrad. They included persons in contact with TB patients, silicosis patients or those suspected of that disease, patients with diabetes, ulcers, and chronic non-specific pulmonary diseases. Analysis was confined to 4000 (including 20% of high-risk) employees who were processed radiologically over a 4 year period. Incidence and reactivation of tuberculosis were higher in the high-risk groups. Differentiated prophylactic measures are to be worked out and a tuberculosis-control, prophylactic dispensary is advised to monitor these people at the factories. Table 1; References 12: 8 Russian, 4 Western.

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USSR

UDC 613.472:614.7:616.093(479.24)

AKHUNDOV, V. YU., professor, AKHUNDOV, K. F., BABARINOVA, L. N., BABAYEV, A. A., and SADYKHOVA, F. E., Azerbaidzhan Order of Labor's Red Banner Scientific Research Institute of Virology, Microbiology and Hygiene imeni G. M. Musabekov

A COMPLEX SANITARY-BACTERIOLOGICAL AND VIROLOGICAL INVESTIGATION OF AZERBAIDZHAN SSR RESERVOIRS IN CONNECTION WITH THEIR CONSERVATION

Baku AZERBAYDZHANSKIY MEDITSINSKI ZHURNAL in Russian No 8, Aug 76 pp 39-44

[Abstract] Complex investigations of an Azerbaidzhan SSR river were conducted in order to improve sanitary procedures. Comparison of various points in the river above and below dumping by three cities (not named) showed that the B. coli index reflected sanitary conditions in the winter and spring, while the quantity of saprophytes was well correlated with hygiene in winter, spring and summer. Enterococci clearly reflected water cleanliness in all seasons, but in the winter the variation was rather small. Taken together, these indicators can determine the sanitary conditions of the water, as demonstrated by the correspondence of enterovirus circulation in population and water and intestinal disease rate in the most severely polluted city. Figures 1; Tables 1; References 1 (Russian).

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Radiobiology

BULGARIA

YOTOV, M., PETKOV, T., KERTEVA, A., ZLATANOVA, R., and BOYADZHIEV, A.,
Scientific Research Institute of Radiobiology and Radiation Hygiene
(director: Professor Iv. NIKOLOV)

RADIOACTIVITY OF FOOD PRODUCTS IN THE REGION OF THE KOZLODUY ATOMIC POWER PLANT IN THE PREOPERATIONAL PERIOD

Sofia RENTGENOLOGIYA I RADIOLOGIYA in Bulgarian Vol 15, No 3, 1976 signed
to press Mar 76 pp 175-178

[Abstract] Samples of food products (meat, milk, wheat, fish, grapes) were taken during the period from January 1972 to June 1974 before the startup of Bulgaria's first atomic power plant, the Kozloduy. The samples were collected from points selected for observation of the region around the plant. The selection was based on the direction of the torch. The points included Cherven Bryag, Pleven, Krushovitsa, Miziya, Vratsa, Gigen and Pelovo. The control point was Lom. Strontium-90, cesium-137 and total beta-radioactivity were determined.

It was found that the average strontium-90 values range from 2.0 to 4.6 for milk, 1.4-3.5 for meat, 236-299 for bones, 2.7-6.0 for wheat; cesium-137
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BULGARIA

YOTOV, M., PETKOV, T., KERTEVA, A., ZLATANOVA, R., and BOYADZHIEV, A.,
RENTGENOLOGIYA I RADIOLOGIYA Vol 15, No 3, 1976 pp 175-178

2.8-5.2 for milk, 6.5-9.1 for meat, 4.1-9.1 for wheat; total beta-radioactivity 1.1-1.2 for milk, 1.7-1.9 for meat, 2.6-6.0 for bones, 2.0-2.4 for wheat. The Cs-137/Sr-90 ratio for milk ranges from 0.9 to 1.9. Average cesium-137 values are higher than strontium-90 values for meat, wheat and milk. The average strontium-90, cesium-137 and total beta-radioactivity values are not substantially different from those observed by the authors in other parts of the country during the same period of time.

USSR

UDC 616.5-001.4-001.29-07:616.5-008.6:546.79

IL'IN, L. A., IVANNIKOV, A. T., POPOV, B. A., KONSTANTINOVA, T. P.,
ALTUKHOVA, G. A., and BAZHIN, A. G.

RESORPTION OF RADIO ISOTOPES THROUGH TRAUMATIZED SKIN

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 24 Mar 75
pp 48-54

[Abstract] This work, which reflects but a portion of a program of investigations dedicated to the protection of the body from the influence of radioactive substances, presents the results of animal experiments, studying the resorption of the radio isotopes of strontium, cerium, polonium and americium through traumas. A dependence is established between the level of resorption of isotopes from wounds and their physical-chemical properties. Some 50% of the radio isotopes of the alkaline earth group (strontium), being in ionic form, are absorbed through the wound surface in 24 hours of contact; the radio isotopes of cerium, polonium and americium, which are inclined to hydrolysis and form insoluble hydroxides at physiological pH, are absorbed through the wound more slowly (2-10% in 24 hours of contact) and are retained
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USSR

IL'IN, L. A., IVANNIKOV, A. T., POPOV, B. A., KONSTANTINOVA, T. P.,
ALTUKHOVA, G. A., and BAZHIN, A. G., GIGIYENA I SANITARIYA No 8, 1976 pp
48-54

for long periods of time in the tissues of the wound. Absorption of radio isotopes through traumatized skin may exceed absorption through undamaged skin by two orders of magnitude. Direct radiometry of the wound surface can determine the absorption of easily resorbed radio isotopes such as strontium. Estimation of the level of resorption of radio isotopes inclined to hydrolysis must be done by determination of the content of radioactivity in the organism and excreta.

USSR

UDC 612.751.1:546.42.02.90

MAREY, A. N., BORISOV, B. K., and BARKHUDAROV, R. M.

Sr⁹⁰ IN HUMAN BONE TISSUE (1972-1974)

Moscow GIGIYENA I SANITARIYA in Russian No 8, 1976 signed to press 22 Oct 75
pp 45-48

[Abstract] This article presents the results of a study of the content of Sr⁹⁰ in various age groups of the population. The indicators characterizing the content of Sr⁹⁰ in the bone tissue of the urban population of the Soviet Union, as in other countries of the northern hemisphere, have stabilized over the last three years. During 1972-1974, the maximum dose of radiation of the bone marrow of the population of the USSR due to incorporated Sr⁹⁰ was not over 2% of the maximum permissible dose.

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Therapy

USSR

UDC 616.1-085.825.1-036.868

MOSHKOV, V. N., Moscow

METHODOLOGICAL PRINCIPLES USED IN EXERCISE THERAPY DURING MEDICAL REHABILITATION OF PATIENTS WITH CARDIOVASCULAR SYSTEM DISEASES

Moscow VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 pp 1-6

[Abstract] The rehabilitation of patients with cardiovascular disorders is an important branch of Soviet Medicine. This paper notes under which situations it is appropriate to practice rehabilitatory measures and when not to. The effect of incremental physical exercises on reestablishment of the functions of cardiovascular system and the methodological principles of such an exercise program are given, aimed at better productivity and effectiveness of the rehabilitation process. Methods for scientific control of the reactivity of the cardiovascular system of such patients are noted. No tables, figures or references.

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USSR

UDC 615.847.8

KUCHERENKO, A. YE., Chair of Orthopedics, Traumatology and Field-Medical Surgery, Vinnitsa Medical Institute imeni N. I. Pirogov, and SHEVCHUK, V. I., Orthopedics Service of the Vinnitsa Oblast' Hospital for Invalids of the War for the Fatherland

TREATMENT OF SOME DISEASES OF THE STUMPS OF EXTREMITIES WITH AN ALTERNATING MAGNETIC FIELD

Kiev KLINICHESKAYA KHIRURGIYA (Clinical Surgery) in Russian No 7, Jul 76 pp 47-49

[Abstract] A group of ninety amputees were studied who for years have complained of prolonged edema, neuromas of the extremities' stumps and clearly pronounced phantom-like pain syndromes in spite of a number of treatments received. Treatment consisted of 20 daily exposures to a variable magnetic field of 200-400 E, each lasting 15 min. After initial exposures the pain disappeared, after 3-4 days the edema began to diminish, disappearing altogether after 10-12 sessions; inflammatory states were alleviated, sleeping habits improved substantially; many began to wear protheses again, something they could not do prior to the treatment because of the inflammatory states and edemas. At the termination of this study 80 patients were cured of their problems, 6 showed considerable improvement and 4 slight improvement. No figures or tables, 9 Russian references.

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USSR

UDC 616.127-005.8-085.838

MATYUKHINA, V. M., GAPRINDASHVILI, A. G., MALAKHOVA, Z. I., and NIKITINA, YE. I., Base Cardiological Sanatorium "Podlipki," Moscow Territory Soviet of the Administration of Health Resorts of the Occupational Unions

EXPERIENCE IN THE REHABILITATION OF PATIENTS WITH MYOCARDIAL INFARCTION IN A CARDIOLOGICAL SANATORIUM

Moscow VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 signed to press 27 Aug 74 pp 10-12

[Abstract] The second phase of patient rehabilitation after myocardial infarction takes place in local cardiological sanatoriums. The controlled exercise program includes therapeutic PT, measured walking and various competitive sports. During the first few days the program is analogous to that in the hospital, then it is intensified on an individual basis. The patients are monitored by tele-EKG. Starting load corresponds to 80% of the load at which threshold changes in EKG become apparent. Strictly individualized programs are developed. In this study 209 patients out of 215 were released from the sanatorium in an improved state. The utilization of various forms of physical activity, especially measured walking, has a beneficial effect on the patient who has suffered myocardial infarction. No tables, figures or references.

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USSR

UDC 616.1-085.825.1

PIL'DES, O. G., Polyclinic No 50, Leningrad

THERAPEUTIC EXERCISE IN COMBINED MEDICAL REHABILITATION OF PATIENTS WITH CARDIOVASCULAR DISEASES

Moscow VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 signed to press 27 Jun 76 pp 7-9

[Abstract] Therapeutic exercises (TE) improve the state of patient health, expressed by positive dynamics of the EKG indicators, normalized arterial pressure, improved functional capabilities of the organism and lower level of complaints. Several ways of TE can be used under polyclinical conditions--physical exercises, active games, skating--all of them playing an important role in a combined rehabilitation program. It is recommended that close medical supervision be maintained with these rehabilitation exercises. Table 1; References 7 (Russian).

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USSR

UDC 615.851.86.015.4:[612.1+612.82]

BELAYA, N. A., ZHURAVLEVA, A. I., and ANDREYEVA, V. M., Central Institute of Resort Science and Physiotherapy, Moscow

INFLUENCE OF CERTAIN ASANS, APPLIED ACCORDING TO THE YOGA SYSTEM, ON THE CENTRAL NERVOUS AND CARDIOVASCULAR SYSTEMS

Moscow VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 signed to press 21 Feb 74 pp 13-18

[Abstract] Due to contradictory statements in translated literature about the effect of Yoga exercises on cardiovascular and central nervous systems, a study was carried out to determine this effect. The following measurements were carried out: electroencephalography, rheoencephalography, mechanocardiography, arterial pressure, pulse rate and subjective feeling of the test subjects. Some positions were found to give undesirable effects, especially for subjects with varicose veins, neck osteochondrosis, hypertensive disorders, etc. In general, the hemodynamic indicators were not affected by these exercises. On the other hand, a series of electrophysiological determinations showed positive influence of the asans
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USSR

BELAYA, N. A., ZHURAVLEVA, A. I., and ANDREYEVA, V. M., VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY No 3, May/Jun 76 pp 13-18

on the functional state of the brain cortex, except for negative dynamics of blood circulation indexes (based on the rheoencephalography data). Overall, a conclusion has been reached that there is no advantage to Yoga exercises over routine methods of therapeutic gymnastics. Figures 4; Table 1; References 12: 6 Russian, 6 Western.

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USSR

UDC 612.015.31+612.126]:546.72+546.56].014.426

MINTS, S. M., PADALKA, YE. S., and LAZAROVICH, V. G., Chairs of Pathophysiology and Physics, Ivano-Frankovsk Medical Institute

EFFECT OF THE CENTIMETER RANGE ELECTROMAGNETIC VIBRATIONS ON THE CONTENT OF IRON, COPPER AND RELATED METAL PROTEIDES IN BLOOD AND IN ORGANS (EXPERIMENTAL STUDY)

Moscow VOPROSY KURORTOLOGII FIZIOTERAPII I LECHEBNOY FIZICHESKOY KUL'TURY (Problems of Resort Science, Physiotherapy and Therapeutic Exercises) in Russian No 3, May/Jun 76 signed to press 4 Jan 74 pp 44-46

[Abstract] Ions of copper and iron are components of many enzymatic systems and thus participate in oxidation-reduction processes, tissue respiration and blood formation. Exposure of rats to 9 cm waves with 60 mV/cm² intensity lasting 10 min for 28 consecutive days leads to considerable changes in the content of these ions in blood and organs; furthermore it results in changed activity of ceruloplasmine, and saturation of blood serum transferrine with iron. Table 1; one Russian reference.

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USSR

UDC 615.835.1+615.835.5

LEONOVA, V. M., candidate of medical science, Central Scientific Research Institute of Health Resort Science and Physiotherapy

ON THE USE OF AERO-IONS AND ELECTROAEROSOLS

Moscow MEDITSINAKAY SESTRA in Russian No 9, Sep 76 pp 12-16

[Abstract] The deposition of aero-ions on charged particles in the air and the formation of charged, nonflocculating, aerosols, whose particles are small enough to permit a medicinal substance to enter the bloodstream, are described. Therapeutic pathways and uses of these preparations, procedures for administration, details of domestic apparatus available, optimum conditions for treatment, safety precautions and results to be expected from patients, are discussed. Drugs used are considered and six therapeutic mixtures appropriate to aerosol inhalation therapy are given. Contraindications and prophylactic uses are listed. Electroaerosols and aero-ions provide safe and extremely effective treatment, particularly in pediatrics, using lower dosages than administration orally or by injection.

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USSR

UDC 616.9-022.39

CHERKASSKIY, B. L., Central Scientific-Research Institute of Epidemiology of the Ministry of Health USSR, Moscow

SOME ASPECTS OF CURRENT EVOLUTION OF ZOONOSES

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 6 Feb 76 pp 109-113

[Text-English language abstract supplied by author] The author analyzes current peculiarities attending the clinico-epidemiological characteristics of a number of zoonoses as a manifestation of the process of their socially conditioned evolution. Possible sequelae of the anthropogenic transformation of the surrounding environment for the dynamics of the nozoareals of the zoonosis infections are considered. References 10: 8 Russian, 2 Western.

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USSR

UDC 576.851.71.095.38.077.3+616.981.711-022.39-078.7

SARYCHEVA, N. I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

POSSIBLE CIRCULATION OF RICKETTSIA PROWAZEKI AMONG ANIMALS (ACCORDING TO THE DATA OF SEROLOGICAL STUDIES)

Moscow ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian
No 10 Oct 76 signed to press 31 Oct 75 pp 125-129

[Text-English language abstract supplied by author] The authors present the results of serological studies of sera obtained from various animal species in the complement fixation test of agglutination with rickettsial antigens, particularly with the R. prowazeki antigen. The Proteus OX₁₉ antigen was also used to ascertain the true nature of the positive agglutination test of the sera of domestic animals with the R. prowazeki antigen; immunochemical analysis of the sera in Sephadex G-200 gel was employed. Agglutinins to the R. prowazeki antigen in sera of domestic animals were found to be nonspecific. In the majority of the cases the

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USSR

SARYCHEVA, N. I., ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII
No 10 Oct 76 pp 125-129

antibodies detected by this antigen were apparently induced by the contacts of the animal with other causative agents of rickettsial and/or nonrickettsial nature, particularly with *Proteus* OX₁₉ (having antigens common with *R. prowazeki*). The results are discussed in connection with the Reiss-Gutfreund hypothesis on the circulation of typhus causative agent among the animals. Figure 1; Table 1; References 15: 3 Russian, 12 Western.

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II. BEHAVIORAL SCIENCES
Engineering Psychology and Ergonomics

USSR

UDC 617.57-089.28:612.014.423

POLYAN, YE. P., PLISKI, G. R., and GOLOVIN, V. S., Central Institute of
Prostheses Fitting and Construction

SYSTEMS OF PROPORTIONAL CONTROL OF BIOELECTRIC PROSTHESES

Moscow ORTOPEDIYA TRAVMATOLOGIYA I PROTEZIROVANIYE (Orthopedics, Trauma-
thology and Prosthesis Fitting) in Russian No 8, Aug 76 signed to press
28 Jan 76 pp 75-77

[Abstract] Prostheses with two and three controlled movements have been developed in which the control and selection of the motion are achieved by means of bioelectric signals from muscles. On the basis of sequential control of the existing functional mechanisms (artificial wrist, rotation mechanism and elbow movement) tables for construction of bioelectric control systems have been prepared for 38 varieties of prostheses. This was achieved by utilization of individualized functional junctions designed to perform specific functions. Selection of these junctions of biopotential amplifiers, relay power amplifiers, logic switching mechanism, and an impulse transformer permits one to construct proportional control prostheses with two or three controlled movements. Figure 1; no tables or references.
1/1

Psychiatry

HUNGARY

ARATO, MIHALY, Dr., ERDOS, ANDRAS, Dr., KAZANSZKY, EMOKE, National Institute of Neurology and Psychiatry

CASES INVOLVING ORGANIC SOLVENT ABUSE AT A PSYCHIATRIC WARD

Budapest ORVOSI HETILAP in Hungarian Vol 117, No 39, 26 Sep 76 pp 2365-2367

[Text] [Hungarian abstract provided by the source] The appearance of psychiatric complications associated with the sniffing of glues is reported on the basis of five observed cases at the psychiatric ward. In the authors' opinion, the following psychopathological symptoms should direct attention primarily to organic solvent abuse: colorful, plastic visual hallucinations, generally pleasant, perceptual distortions, inadequate behavior, oneiric state of consciousness, mood elevation without motivation. These symptoms generally appear in an acute form and may rapidly disappear without treatment. Attention is called to the differential diagnostic difficulties as well as to the unresolved legal aspects of therapy. On the basis of these studies, an attempt is made to point out the characteristic symptoms and the common traits of the psychological examinations. References 14: 7 Hungarian, 7 Western.

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GDR/BULGARIA

BOEHM, M., Wilhelm Grisinger Hospital, Berlin, GDR

CERTAIN ASPECTS OF PSYCHIATRIC TREATMENT OF ADULTS AND THE ELDERLY IN BERLIN, THE CAPITAL OF THE GERMAN DEMOCRATIC REPUBLIC

Sofia NEVROLOGIYA PSIKHIATRIYA, I NEVROKHIRURGIYA in Bulgarian Vol 15 No 4 1976 signed to press Sep 75 pp 269-272

[Text-English language abstract supplied by author] The social factors of aging play an increasingly important role in all economically developed countries, including the GDR, where a considerable aging of the population is noted. Unfavorable social influences may modify the natural process of aging in the direction of morbidity. The past history in similar cases reveals a number of characteristic problems, namely: feeling of uselessness, loneliness, loss of prestige, an inferiority body and mental complex, fright of death, experiencing the discrepancy between positive attitude of society towards elderly persons and insufficient realization of this same attitude in everyday life. In the geropsychiatric clinic in Berlin, founded in 1972, patients mostly affected with the below listed conditions

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GDR/BULGARIA

BOEHM, M., NEVROLOGIYA PSIKHIATRIYA, I NEVROKHIRURGIYA Vol 15 No 4 1976
pp 269-272

have undergone treatment: memory disorders (38.2 per cent), paranoid-hallucinatory syndromes (23.9 per cent), depressive syndromes (12.2 per cent), etc. In a separate pregeriatric department, patients with already established signs of premature aging were treated. The author rejects the nihilistic approach in the treatment of mental elderly patients, and substantiates the need of a reasonable combination between psycho- and somatotherapy. The psychotherapeutical work is concentrated into four problem and conflict issues. Individual and group conversations are also resorted to. Differences in the aims and methods of psychotherapy in young and in elderly individuals are discussed. Table 1; No references.

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CSO: 1840

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